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NOTES ON SOME NORTHEASTERN SPECIES OF SPERGULARIA.

M. L. Fernald and K. M. Wiegand.

During the past summer observations upon *Spergularia* at various stations on the New England coast made it clear, that our ordinary interpretation of specific limits in the maritime species is not entirely satisfactory; and subsequent study of much herbarium material shows that certain of the conclusions of Kindberg based upon the seed-characters of these plants should be sustained. Upon the Atlantic coast of North America there are three very clearly distinguished plants (besides the common *S. rubra*, which is rarely found in saline habitats). One of these plants, with the capsule much longer than the comparatively short round-tipped sepals, and with large seeds, is without doubt *S. canadensis* (Pers.) G. Don, which was based by Persoon upon Michaux's *Arenaria rubra* β from the mouth of the River St. Lawrence. The Michaux material is preserved at the Muséum d'Histoire Naturelle in Paris, and examination of his specimens has confirmed our present interpretation of the species.

The other two maritime plants are passing, in our current manuals, under the name *Spergularia marina* (L.) Griesb., or *Tissa marina* (L.) Britton. Both of them, like *S. canadensis*, may have all the seeds in a capsule wingless or some of them with a thin friable wing; but one of the two plants has the seeds quite smooth (except for the occasional wing), while the other has them glandular-papillose. Although these characters of the seeds have recently been treated as of no diagnostic value, still the plant with papillose seeds has most of the flowers (at least the uppermost) subtended by very short bracts or none at all,

thus giving the upper half of the inflorescence an almost naked appearance. The plant with smooth seeds, on the other hand, has the flowers all subtended by elongate leaf-like bracts which so closely resemble the foliage-leaves as to give the inflorescence the appearance of a series of axillary flowers. In a very large number of American specimens examined, these two characters of inflorescence and seeds appear so regularly concomitant that, although two or three doubtful specimens have been seen, the plants seem to be well-distinguished species. It is not improbable that the intermediate specimens, which are all from one station, are hybrids. In the case of the smooth-seeded plant there seems to be no question as to the name to be taken up. This plant is *Lepigonum leiospermum* of Kindberg, who calls attention to both the seed- and bract-characters. It was based in part upon material from Massachusetts and Pennsylvania, and later transferred to *Spergularia* by F. Schmidt.

The other coastal plant, with papillose seeds and with the upper flowers nearly bractless, although very common, has a most perplexing nomenclatorial history. In 1753 Linnaeus described in the Species Plantarum an *Arenaria rubra β marina*. A study of the description, citations, and possibly specimens upon which this was based has convinced many European authors that the variety consisted of diverse elements, and so far as we can judge this seems to be true. Authors subsequent to Linnaeus have spent much time and discussion in attempts to make the name apply more definitely to one or the other of these component parts. The results have thus far proved futile, as have the attempts to refer the resulting specific name, *Arenaria marina*, of the early authors to any one species. Therefore, since the name *marina* is one which, as practice shows, has become "a permanent source of confusion or error" the writers feel that intelligibility and clearness in advancing knowledge of the plants themselves will be best served by allowing it to lapse in accordance with Article 51 (4) of the Vienna Code. In so doing they follow Rouy & Foucaud, who say: "La synonymie des noms anciens des *Arenaria* ou *Spergularia media* et *marina* est devenue pour ainsi dire inextricable; aussi estimons-nous, à l'exemple de plusieurs auteurs contemporains, qu'il convient d'abandonner ces noms, qui ne peuvent actuellement que prêter à confusion." [1] Kindberg used for our annual plant with papillose

[1] Rouy et Foucaud, Fl. Fr. iii. 302 (1896).

seeds and with the upper flowers without elongate leafy bracts the name *Lepigonum salinum* based upon *Spergularia salina* J. & C. Presl; and the latter name is taken up in this sense by Gürke[1] and by Druce.[2] Consequently, in view of the hopeless confusion surrounding the name *marina*, it seems wisest to retain for our annual maritime plant with papillose seeds and aphyllous upper flowers the name *Spergularia salina* J. & C. Presl, which is the earliest name that has been definitely attributed to our plant. In 1843 Griesbach used the name *Spergularia marina* clearly for our plant, but as this was some twenty-four years later than the Presl publication of *S. salina* it need cause no confusion.

One other species of *Spergularia* is known in our eastern flora. This is a plant with thickish, apparently perennial root, long pedicels, larger capsule, and comparatively large seeds with a broad firm persistent and less erose wing. This plant is now rather common about the head of Onondaga Lake in New York, and in the Synoptical Flora of North America and in the 7th edition of Gray's Manual is called *S. media*. It is interesting to note that although this plant is now not at all rare on the shores of Onondaga Lake, it was not known there in 1865. Paine in his "Plants found in Oneida County and Vicinity"[3] enumerated no species of *Spergularia*; and Clinton,[4] in an enumeration of the maritime plants which occur on the saline borders of Onondaga Lake, did not record it. Its subsequent discovery and its present abundance indicate that this species is of recent introduction, and that in this saline region it has become established as have various Old World species which now abound about Boston Harbor.[5] But that this perennial plant with long pedicels and winged seeds should not be called *Spergularia media* is a conclusion which has been reached by many of those who have specially studied its nomenclatorial status. *Arenaria media* L. has been shown[6] to consist in part of a *Spergula*, in part of an annual *Spergularia* with papillose seeds (our *S. salina*), and in part of the perennial plant under discussion; and like *Arenaria rubra β marina* of Linnaeus it has been subsequently interpreted in so many ways as to become a "permanent

[1] Gürke, Plantae Europaeae, ii. 195 (1899).
[2] Druce, List of British Plants, 12 (1908).
[3] J. A. Paine in 18th. Ann. Rep. Univ. N. Y. (1865).
[4] G. W. Clinton in 18th. Ann. Rep. Univ. N. Y. (1865).
[5] See Rhodora, xi. 120, 239 (1909).
[6] See Hiern, Journ. Bot. xxxvii. 319 (1899).

source of confusion or error" and is now so treated by many European authors. Rouy & Foucaud [1] (see quotation above), and Gürke [2] take up for our plant the name *Spergularia marginata*, (DC.) Kittel, based upon *Arenaria marginata* DC.; Hiern calls it *Alsine marina* Wahlenb. and applies the name *Alsine media* Crantz to *Spergularia salina* J. & C. Presl, although it appears from Hiern's note that Crantz's species (assuming that it has been positively identified) was also a mixture of a *Spergularia* and a *Spergula*. Britten & Rendle [3] call it *Alsine marginata* Reichenb. (treating *S. salina* J. & C. Presl as *Alsine media* Crantz); but, in view of the fact that *Spergularia* was included in the list of *nomina conservanda* adopted at Vienna, "a list of names which must be retained in all cases" (Art. 20), we cannot agree with those who throw aside the generic name *Spergularia* for *Alsine* (see Journ. Bot. XLV. 436), a name which itself has been subject to the most diverse interpretation. Druce [4] treats the perennial *Spergularia marginata* (DC.) Kittel as *S. media* (Pers.) Presl (= *Arenaria media* L. in part), and maintains of *Alsine media* Crantz the name *Spergularia salina* J. & C. Presl. In view of such diversity of interpretation among those who are better situated than the writers to determine the Linnaean type, there seems no clear course open at present but to call the perennial plant with long pedicels and large seeds by the name which leaves no doubt in the mind as to the plant intended, and in so doing to follow a practice which has many adherents in Europe. The first unincumbered name for this plant seems to have been *Arenaria marginata* DC., and as a *Spergularia* the plant should be known as *S. marginata* (DC.) Kittel.

We are inclined to agree with most European authors that the character of pubescence in these saline species is not of much diagnostic value. *Spergularia marginata*, in practically all specimens examined, is glandular-pubescent at least above, and *S. canadensis* is almost as regularly entirely glabrous. In each of the other two species, *S. salina* and *S. leiosperma*, there is a hairy and a smooth form.

The leading characters and distribution of the fleshy Spergularias in northeastern North America may be summarized as follows:

Mature capsules large (6.5–9 mm. long), about twice the length of the calyx: pedicels at maturity about twice as long as the capsule: seeds, excluding the

[1] Rouy et Foucaud, Fl. de France, iii. 302 (1896).
[2] Gürke, l. c. 197.
[3] Britten & Rendle, List of British Seed-Plants and Ferns, 7 (1907).
[4] Druce, l. c.

wing, 0.7–1 mm. long, smooth, all with a broad rather firm scarcely erose wing: stamens 8–10: bracts very short, and inflorescence therefore appearing naked: free portion of the stipules ovate, acuminate: plant with a stout root, seemingly perennial. . . . . 1. *S. marginata*

Mature capsules smaller (3–5.5 mm. long): seeds either winged or wingless, often both kinds in the same capsule: margin of the more friable wing strongly erose: stamens 5 or fewer: plants with more slender root, chiefly annual.

Seeds large, 1–1.33 mm. long (exclusive of the wing when present), smooth, rarely papillose: capsule subglobose-ovoid, about twice the length of the calyx: sepals broadly ovate to oblong-ovate, at maturity 1.5–3 mm. long, rounded at tip: free portion of stipules very short, truncate or apiculate: plant glabrous. . . . . 2. *S. canadensis*

Seeds smaller, 0.5–0.8 mm. long: capsule conic-ovoid, equaling or a little exceeding the calyx: sepals ovate to lanceolate, obtuse to acutish, at maturity 3–3.5 mm. long: free portion of the stipules long, acuminate: plants glabrous or glandular-pubescent.

Seeds glandular-papillose: upper green bracts of the inflorescence minute or wanting. . . . . 3. *S. salina*

Seeds smooth: upper green bracts usually conspicuous. 4. *S. leiosperma*

1. S. MARGINATA (DC.) Kittel, Taschenb. Fl. Deutsch. ed. 2, 1004. (1844). *Arenaria rubra β marina* L. Sp. Pl. 423 (1753) in part. *A. media* L. Sp. Pl. ed. 2, 606 (1762) in part. *A. marina* All. Fl. Pedem. ii. 114 (1785)?. *A. marginata* DC. Fl. Fr. v. 793 (1815). *Lepigonum marinum* Wahlenb. Fl. Gotob. 47 (1820); Kindberg, Monog. Lepig. 18 (1863). *Spergularia media* Presl, Fl. Sic. 161 (1826); Robinson in Gray, Synop. Fl. i. pt. 1, 252 (1897) as to N. Y. plant; Robinson & Fernald in Gray, Man. ed. 7, 379 (1908) as to N. Y. plant. *Alsine marina* Wahlenb. Fl. Suec. pt. 1, 281 (1824); Hiern, Journ. Bot. xxxvii. 319 (1899). *Alsine marginata* Reichenb. Fl. Germ. Exc. 566 (1832). — Saline soil about salt springs near Onondaga Lake, NEW YORK, apparently introduced from Europe. Specimens seen from near Salina (*Fry*, fide Robinson l. c.); near Baldwinsville 1894 (*W. M. Beauchamp*); Syracuse Salt Marsh, August 17, 1901 (*W. W. Rowlee*), August 18, 1902 (*K. M. Wiegand*, No. 27).

2. S. CANADENSIS (Pers.) G. Don, Syst. i. 426 (1831), as to synonym but not description. *Arenaria rubra β* Michx. Fl. Bor. Amer. i. 274 (1803). *Arenaria canadensis* Pers. Synop. i. 504 (1805). *Tissa salina* Britton, Bull. Torr. Bot. Cl. xvi. 127 (1889) as to description, not synonym. *Buda borealis* Wats. & Coulter in Gray, Man. ed. 6, 90 (1890). *Tissa canadensis* Britton, Mem. Torr. Bot. Cl. v. 152 (1894). *Spergularia borealis* Robinson in Gray, Synop. Fl. i. pt. 1, 252 (1897). Brackish or saline soils, Gulf of St. Lawrence to Connecticut, most abundant northward; apparently also on the coast of Washington. Among the large number of specimens examined a few may be cited as follows. NEWFOUNDLAND: Frenchman's Cove,

Bay of Islands, August 9, 1896 (*Waghorne*). Quebec: Bonne Esperance, August 28, 1882 (*J. A. Allen*); Becscie River, Anticosti, August 31, 1883 (*J. Macoun*, no. 35); Vicinity of Cap à L'Aigle, August 14, 1905 (*J. Macoun*, no. 66,770); Bic, July 25 & 26, 1907 (*Fernald & Collins*, no. 1030). New Brunswick: Bathurst, July 25, 1902 (*Williams & Fernald*); Kent County, 1870 (*J. Fowler*). Prince Edward Island: Brackley Point, August 6, 1888 (*J. Macoun*). Nova Scotia: Purcell's Cove, Halifax Harbor, September 2, 1901 (*Howe & Lang*, no. 1571). Maine: Carlow Island, Passamaquoddy Bay, August 16, 1909 (*Fernald & Wiegand*); Norwood Cove, Mt. Desert Island, September 18, 1892 (*Fernald*); Wells Beach, July 23, 1898 (*Fernald*). New Hampshire: Hampton, September 22, 1901 (*E. F. Williams*). Massachusetts: Mystic River Marshes, August 21, 1881 (*F. S. Collins*): North Dennis, July 14, 1879 (*C. N. Brainerd*). Rhode Island: Seekonk River, Providence, July 8, 1892 (*J. F. Collins*). Connecticut: salt marsh, Esker Point, Groton, September 9, 1903, *C. H. Bissell.*

3. S. salina J. & C. Presl, Fl. čech. 95 (1819); Robinson in Gray, Synop. Fl. i. pt. 1, 251 (1897). *Arenaria rubra β marina* L. Sp. Pl. 423 (1753) in part. *A. marina* Roth, Tent. i. 189 (1788) according to Kindberg, Gürke, and Rouy & Foucaud; probably not *A. marina* All. (1785). *Spergularia marina* Griesb. Fl. Rumel. et Bith. i. 213 (1843); Robinson & Fernald in Gray, Man. ed. 7, 378 (1908). *Lepigonum salinum* G. Don in Sweet, Hort. Brit. ed. 3, 69 (1839); Kindberg, Mon, Lepig. 36 (1863). *Tissa marina* Britton, Bull. Torr. Bot. Cl. xvi. 126 (1889). *Alsine media* Hiern, Journ. Bot. xxxvii. 318 (1899), perhaps of Crantz (1766).— Newfoundland and eastern Quebec to Connecticut, and possibly farther southward. Among numerous specimens examined are the following. Quebec: brackish gravelly shore, Rivière du Loup, August 2, 1902 (*Williams & Fernald*). Nova Scotia: Baddeck, Cape Breton Island, July 19, 1883 (*Burgess*), Aug. 26, 1898 (*J. Macoun*, no. 19,035); brackish soil, Windsor, August 22, 1902 (*Fernald*). Maine: old wharf, Pembroke, July 29, 1909 (*Fernald*, no. 1759); Cutler, July 26, 1902 (*Kate Furbish*); Suttons Island, Hancock Co., August 22, 1890 (*E. L. Rand*); site of old pickle factory, North Berwick, September 26, 1897 (*Parlin & Fernald*); Wells Beach, July 3, 1898 (*Kate Furbish*). Massachusetts: salt marsh, Cambridge, June 1895 (*B. L. Robinson*); salt marsh, Boston, August 2, 1906 (*C. H. Knowlton*); Oak Island, Revere, July 9, 1882 (*H. A. Young*). Rhode Island: Tiverton, September 27, 1903 (*J. M. Greenman*, no. 1765 in part); Seekonk River, September, 1876 (*W. W. Bailey*). Connecticut: Groton Long Point, Groton, September 9, 1903 (*C. H. Bissell*).

4. S. leiosperma (Kindberg) F. Schmidt, Reisen im Amurl. 131 (1868), printed as *Spergula leiosperma* but by its position between two species of *Spergularia* clearly by a typographical error. *Lepigonum*

leiospermum Kindberg, Monog. Lepig. 23 (1863). *Buda marina*, var. (?) *minor* Wats. & Coult. in Gray, Man. ed. 6, 90 (1890). *Spergularia salina*, var. ? *minor* Robinson in Gray, Synop. Fl. i. pt. 1, 252 (1897). *Spergularia salina*, var. *leiosperma* Gürke, Pl. Eur. ii. 196 (1899).—Baie des Chaleurs, Quebec, and Cape Breton Island to Connecticut and southward (Philadelphia and Carolina, *fide* Kindberg); and apparently on the Pacific Coast. The following from among many specimens are cited as characteristic. QUEBEC: damp hollows in gravelly beach, Carleton, July 21, 1904 (*Collins & Fernald*). PRINCE EDWARD ISLAND: beach, Summerside, July 21, 1901 (*J. R. Churchill*). NOVA SCOTIA: Baddeck, Cape Breton Island, July 18, 1883 (*J. Macoun*); near beach, Yarmouth, July 22, 1901 (*Howe & Lang*, no. 24). MAINE: dryish strand, Moose Island, Passamaquoddy Bay, August 16, 1909 (*Fernald & Wiegand*); strand, Pleasant Point, Perry, August 16, 1909 (*Fernald & Wiegand*); pool, Great Cranberry Isle, July 31, 1893 (*J. H. Redfield*); Wells Beach (various collectors). MASSACHUSETTS: Malden, 1867 (*Wm. Boott*); Oak Island, Revere, August 13, 1882 (*H. A. Young*); Cambridge (*Wm. Boott*); shore of "Salt Pond," Eastham, August 16, 1908 (*F. S. Collins*, no. 610); Gay Head, Martha's Vineyard, August 2, 1897 (*S. Harris*). RHODE ISLAND: without definite station, 1844 (*G. Thurber*); Tiverton, September 27, 1903 (*J. M. Greenman*, no. 1765 in part). CONNECTICUT: New Haven (collector unknown); salt marsh, Orange, August 3, 1897 (*C. H. Bissell*, no. 107).

Dwarf plants with very short pedicels and small capsules, etc. were described by Watson as *Buda marina*, var. (?) *minor*, from the Isles of Shoals and adjacent coast of New Hampshire. Similar dwarf plants have been collected on Cape Breton Island. Material collected at Guilford, Connecticut, by Mr. G. H. Bartlett has the bracts of *S. leiosperma* but the seeds papillose as in *S. salina*. This is the only clearly transitional material found in the study of the species.

TERATOLOGY IN TRILLIUM.

WALTER DEANE.

THROUGH the kindness of Mr. Edwin DeMeritte I have been enabled for the third time (See RHODORA, x. 21–24 & 214–216, 1908) to examine and record teratological specimens of the Painted Trillium, *Trillium undulatum* Willd. from his summer camp at Squam Lake, Holderness, New Hampshire. As I have previously stated, these plants were all growing in a very limited area, not more than two meters across "in the leaf-mould and scanty soil on a rocky ridge,"

not far from the shore of the lake. Mr. DeMeritte examined the spot again on May 29, 1909, and found four abnormal plants, three with three whorls of three leaves each and a perfect blossom, and one with two whorls of three leaves each and a double blossom. He took the last one and one of first three, leaving the root-stocks, pressed them, and presented them to me. It was fortunate that he procured flowers this time, as we had not seen them before. I will describe the plants in detail, as it may be useful to the future student of this branch of botany.

The plant with the double flower and two whorls of three leaves each is 19.5 cm. in height. It is 13 cm. to the first node, where there are three withered bases of leaves, which were evidently eaten by insects. The internode above this is 1.7 cm. long, and at the second node there are three, broadly ovate, taper-pointed, petioled leaves. The blades of these leaves are respectively 6.7 cm., 6.5 cm. and 5.5 cm. in length, and the petioles 8 mm., 10 mm. and 15 mm. in length. Above this node is the peduncle, 4.2 cm. long, crowned by the flower. The three sepals are broadly ovate, taper-pointed, sessile, green, and are respectively 6 cm., 5 cm. and 5.5 cm. in length. There are six petals, ovate to obovate, wavy margined, with very abrupt tapering points, and from 3 cm. to 4 cm. in length. The color of four of the petals is normal, i. e., white with purple stripes at the base, but the remaining two petals, which are in the outer row, have, beside the usual coloration, one, a broad, dark green band occupying the center of the petal from base to tip, and the other, a narrow, light green line running down the center the entire length, on one side of which near the tip is a dash of light green. There are three normal stamens opposite the three outer petals. The pistil consists of a three-lobed ovary, two normal styles and one bent and deformed. On one side of the ovary is a rudimentary stamen, the filament and half the anther contiguous with it along a narrow ridge, which extends perpendicularly the length of the ovary. The anther is destitute of pollen grains. The ovary itself, as well as the twisted character of the interior shows, is two-celled with axile placentae and many ovules.

The second plant has three whorls of three leaves each. It is 22 cm. high and 13 cm. to the first node where there are three broadly ovate, taper-pointed, petioled leaves with the blades 8 cm. and the petioles 2.5 cm., 3 cm. and 3 cm. in length. The first internode is 5.5 cm. long, and at the second node are three broadly ovate, taper-

pointed, petioled leaves, with the blades 7 cm., 7 cm. and 6 cm., and the petioles all 5 mm. in length. The second internode is 2 cm. long and at the third node are three ovate, taper-pointed, sessile leaves, two with a single lobe on one side, a little nearer the base than apex, the sinus pointing to the base of the leaf, and giving the effect in a general way of the single-lobed form of leaf of our common Sassafras (*Sassafras variifolium* (Salisb.) Ktze.), while the third leaf has a notch in the same position, showing an approach to the same kind of lobe. The leaves are 6.2 cm., 6.5 cm. and 5.7 cm. in length. Above this node is the peduncle, 1 cm. long, surmounted by the flower, which is normal as to the petals and stamens. The sepals are three in number, green, ovate, taper-pointed, sessile, 4.5 cm. in length and 2 cm. in width. The ovary is normal as to its exterior, but is one-celled with three parietal placentae and numerous ovules.

The plants taken from this same station in 1907 and 1908 by Mr. DeMeritte exhibited in general the plan of three, excepting one which was growing about two meters from the others and showed the plan of three and of four in its various parts. The persistency of these forms now for three seasons is significant and would seem to indicate a normal condition of abnormality in this particular locality.

An interesting *Trillium erectum* L. came to my notice on May 30, 1909, and I examined it in a fresh state. A party of us were driving on that day through the Glen Road at the base of the White Mountains in New Hampshire. The sides of the way were lined with this handsome Trillium in full flower, the large rhombic leaves and the deep maroon petals making a beautiful display. We collected a large bunch, and in the evening I examined each plant carefully and found one case of teratology. In all points not mentioned below, such as size and shape of leaves, etc., the plant is normal. There is a single whorl of four leaves. The sepals are five in number, green with an edging of maroon, two of them in addition streaked with maroon. There are four petals alternating with the sepals and leaving one vacant place where there is absolutely no evidence that a fifth petal was ever present, the two adjoining petals being contiguous at the base. There are eight stamens, four opposite, and four alternating with the petals. One of the latter stamens is double, the anthers separate for three fifths of the way from the apex, the remaining two fifths, as well as the filaments, united. The ovary is eight-winged, one-celled, with four parietal placentae, each placenta attached to the wall between

two ridges, and two ridges being between two adjoining placentae. The attachment of the placentae is opposite the petals, and the ovules are numerous.

All the specimens above described are in my herbarium.

Cambridge, Massachusetts.

LONICERA PROLIFERA AND L. FLAVIDA.

Alfred Rehder.

In the new edition of Gray's Manual the name *Lonicera Sullivantii* is adopted as the valid name for that species, but a strict application of the Vienna code of nomenclature will necessitate a change, as the oldest valid specific name for the species is *Caprifolium proliferum* Kirchner, antedating Gray's name by almost twenty years. Kirchner's description in this case is rather good and there can be no doubt about the species he had in mind. Moreover I have seen herbarium specimens under the name of *Caprifolium proliferum* and *L. prolifera* collected in European gardens in the sixties, two of them preserved in the herbarium of the St. Louis Botanic Garden, which represent the same species. The combination *Lonicera prolifera* is not entirely new, for it was published, though without any description, as far back as 1840. The authority cited "Booth Cat." corresponds with the information Kirchner gives who says that he obtained the species from the nurseries at Flottbeck; Booth's nursery at Flottbeck was at that time one of the best known in Germany and famous for its collections of rare and new plants. This shows that the *Lonicera* in question has been in cultivation in Europe for at least seventy years and has been considered a distinct species by German horticulturists. I append here the synonymy of the species omitting Rafinesque's *Lonicera rupestris* and *L. reticulata* quoted in my Synopsis of the genus *Lonicera* with a query under *L. Sullivantii*; these two species being very doubtful may not belong to *Lonicera* at all.

Lonicera prolifera (Kirchner) n. comb.— [*L. prolifera* Booth Cat. ex Heynhold, Nomencl. Bot. Hort. I. 476. 1840, nomen nudum. *L. spec. nov.* Sullivant, Cat. Plant. Columbus 29, 57. 1840.] *L.*

flava β Torrey & Gray, Fl. N. Am. II. 6. 1841. *L. parviflora* β *Sullivantii* Wood, Classb. Bot. ed. II. 298. 1847. *L. flava* Gray, Man. Bot. 171. 1848, in part. *Caprifolium proliferum* Kirchner in Petzold & Kirchner, Arb. Muscav. 426. 1864. *L. Sullivantii* Gray, Proceed. Am. Acad. XIX. 76. 1883. *Caprifolium Sullivantii* Kuntze, Rev. Gen. Pl. I, 274. 1891. *L. sempervirens* var. *Sullivantii* Mouillefert, Arb. Arbriss. II. 897. 1896.

It may seem not quite correct to call *L. prolifera* a new combination, as this very name had been published already in 1840, but then it was not accompanied by a description nor by a reference to an earlier description and therefore can as a nomen nudum not be considered a valid name. The specific name first became valid in 1864 with *Caprifolium proliferum* which is accompanied by a sufficient description.

Another American *Lonicera* which has to receive a new name is *Lonicera flavescens* Small, Fl. Southeast. U. S. 1126 (1903), as there exists an older homonym in *L. flavescens* Dippel, Gartenfl. XXXVII.7 (1888). A new name was proposed soon after the publication of the younger homonym by Professor T. D. A. Cockerell in a letter preserved in the herbarium of the New York Botanical Garden with the type specimen and as it has not yet been published it may be put on record here.

Lonicera flavida Cockerell in litt., nom. nov.— *L. flavescens* Small, Fl. Southeast. U. S. 1126. 1903, not Dippel. *L. flavida* is closely related to *L. flava* Sims and intermediate between that species and *L. prolifera* (Kirchn.) Rehd. From *L. flava* it differs chiefly in the paler color of the corolla, the shorter tube with the throat pubescent inside and the acute and not chartaceous-margined leaves, while from *L. prolifera* it is easily distinguished by its acute, thin leaves, not glaucous above, the slenderer and longer corolla-tube and the shorter inflorescence. The species seems to be rather local and is known only from a few localities in Tennessee and Kentucky; the type is from the Cumberland Mountain in Franklin Co., Tennessee.

Arnold Arboretum.

NOTES ON THE FLORA OF FRANKLIN COUNTY, MASSACHUSETTS.

Emile F. Williams.

I spent June 17th and 18th, 1910, in Greenfield, Massachusetts, and as I collected there and in the neighborhood several plants of much interest, I was urged by the ever diligent editors of Rhodora to put them on record.

The morning of the 17th was devoted to the bold ridge to the east of the town, known locally as Rocky Mountain. Much of this ridge is brown sandstone, and near the southerly end there is an outcrop of basaltic rock which is of such interest to geologists, that the inroads of a stone crusher near by were diverted in another direction. Immediately as we entered the woods at the foot of the slope, we were greeted by the delicate elusive purple racemes of *Liparis liliifolia*, an auspicious introduction to the flora of the ridge. A short scramble brought us to the summit which was literally covered by a *Vaccinium* that has hitherto always escaped me, until I began to think it very rare indeed, *V. stamineum*, the deerberry or Squaw huckleberry. Its racemes are quite loose and, unlike the flowers of most other species of the genus, the corollas are open campanulate and hang downwards on slender pedicels, like graceful little white bells with burnt orange stamens for clappers. On the edge of the cliffs, beautiful tufts of *Woodsia ilvensis* filled those cracks in the rock which were not appropriated by the harebells and the fruiting clumps of Columbine. A little further south the top of the cliff was covered by great patches of the by no means common *Arenaria stricta*. I have it from a few stations in Vermont and only one in Connecticut. Near by we came upon a thriving colony of the beautiful *Asclepias quadrifolia*, and *Arabis Drummondi* filled the cracks of a great ledge in the burning sunshine. The view from the southern end of the ridge called Sachem's Head was superb. Below us spread the town with the Green river sluggishly flowing to its junction with the Deerfield river. To our left stretched many miles of the Connecticut river and its fertile valley. Before us was extended the Deerfield valley with the picturesque village peeping out between the tall trees, and in the foreground Pine Hill, a richly wooded island in the Deerfield meadows, reminded us of

our well beloved Oak Island in the Revere marshes. The distant view displayed a noble panorama of hills and mountains as far as the eye could see.

It had rained heavily in the early morning and the bushes were very wet, so we were unable to explore the cliffs where grows the beautiful *Clematis verticillaris*. I have a specimen of this plant collected here in June, 1897, and I was informed that it is not infrequent on the steep rocky slides below the summit.

The afternoon was devoted to historical exploration in old Deerfield, and in the old Cemetery we came again upon *Vaccinium stamineum*, unceremoniously taking possession of the graves of early settlers, so old that they are no longer cared for and the weeds and brambles are thick amongst them. Near the cemetery is the station for the very rare *Arisaema Dracontium*, the green dragon. I have a specimen in my herbarium dated June 3d, 1896, which came from a garden in Deerfield where a bulb collected here some years before had been propagated and throve for many years. It has not been seen for some time, but then, nobody has looked for it. I hated to leave without investigation but as our time was limited and as the meadow was very large and very wet I reluctantly turned back. The only other station I know of in New England for this rare plant is at Weybridge, Vermont, where I collected it in 1908. It was abundant there at that time. It is said to be found locally in Connecticut.

On the 18th we started early for the valley of the Green river. The route lay at first through the Greenfield meadows and here I collected in a field an old acquaintance of New Hampshire, *Camelina microcarpa*. After driving some miles through the fertile fields and prosperous looking farms of the meadows, we entered the woods. We were now in Coleraine and the scenery rapidly grew wilder. The clear shallow river about one hundred feet wide, from this point northwards flows swiftly between steep hillsides covered with a luxuriant growth, deciduous trees predominating. There is room in this narrow valley only for the river and the road, which indeed in many places is held up by walls built up from the river bed. The many bars and alluvial thickets hold out a tempting invitation to be searched, and at every bend of the river beautiful views are revealed, enchanting vistas of stream and forest, moss covered ledges and fairy brooks plunging down the hillsides under dimly lit arches of verdure. It is New England's hill country at its best and reminded us of river scenery we had

explored, in wild and remote regions, where the hand of man has not yet despoiled nature of her glory.

Our principal objective in penetrating this lovely wilderness was to visit a station for *Waldsteinia fragarioides* recently discovered by my cousin, Mrs. George W. Thacher, a botanist of large experience, who accompanied me. An agreeable surprise was held back by her, and when we alighted at her direction, we found ourselves before a large and thriving colony of *Equisetum scirpoides*, the first one I had seen in Massachusetts. This *Equisetum* is fairly frequent in northern Maine and northwards and is occasionally found in Vermont, the Berkshires and western Connecticut. It is however not common, and I was very much pleased to renew my acquaintance with it. The *Waldsteinia* was close by and was growing rather sparingly on a rich bank, in partial shade. It was past flowering, but I knew it at once. I learn that the Grey Herbarium contains but one sheet of the *Waldsteinia* from New England, collected at Hanover, New Hampshire, in 1846. The herbarium of the New England Botanical Club has two,—one from Hanover collected by Dr. George G. Kennedy, and one from Pownal, Vermont collected by Fred G. Floyd. Mr. Walter Deane who kindly furnished me with the above data has a specimen from Connecticut in his herbarium. I have myself collected *Waldsteinia* only once before, at Brandon, Vermont, in company with Dr. Kennedy in May, 1908. I have it also in my herbarium from Lebanon, New Hampshire (G. G. Kennedy) Middlebury, Vermont (Dr. Ezra Brainerd) and Rutland, Vermont (W. W. Eggleston). While this plant may be fairly common in Vermont especially in the Champlain valley, it appears to have been seldom reported from other New England localities Along the road grew in rich abundance such plants as *Mitella diphylla*, *Tiarella cordifolia*, *Cystopteris bulbifera*, *Onoclea Struthiopteris*, *Carex sparganioides*, *Luzula saltuensis*, all dear to the heart of the botanist, and a hurried inspection of a short stretch of river beach rewarded us with *Spiranthes lucida*, *Habenaria hyperborea*, and most unexpected in this wild spot, *Lithospermum officinale*. The valley of the Green river is easily reached from Greenfield and I have no doubt from the short visit I made to it, that it would well repay a systematic investigation of its flora.

Cambridge, Massachusetts.

VERNONIA GEORGIANA, A NEW SPECIES RELATED TO V. OLIGOPHYLLA.

H. H. Bartlett.

Botanists in the southeastern States must have often observed the close similarity which *Elephantopus tomentosus* bears to *Vernonia oligophylla* when both are in the rosette stage. Indeed, at the outset of my own collecting in Georgia, I failed to distinguish the two plants until I had seen both in flower. In the pine barrens of McDuffie County there are three species of *Elephantopus*, — *E. carolinianus*, with the leaves all ovate and all alike, *E. nudatus* with lanceolate leaves forming a basal rosette, and much reduced or bracteiform cauline leaves, and *E. tomentosus* with a basal rosette of ovate or oblong leaves and the stem usually scapiform. The close similarity of *Vernonia oligophylla* to *Elephantopus tomentosus* had struck me so forcibly that when I found a third kind of rosette in the pine barrens, with narrowly lanceolate, acute leaves, I passed it by as *Elephantopus nudatus*. Until last summer, I did not find this third rosette in flower, and then, to my surprise and pleasure, it proved to be a species of *Vernonia*, very closely allied to *V. oligophylla*. In its rosette of large basal leaves *Vernonia oligophylla* has heretofore been held unique among our ironweeds. This character it holds in common with the newly discovered plant.

On account of the well-known tendency of the *Vernoniae* to hybridize, it occurred to me that I might have found a hybrid between *V. oligophylla* and some other species. The idea seemed the more plausible because one of my *Vernoniae* from the same region is thought by Dr. Gleason to be a hybrid between two such diverse species as *V. noveboracensis* and *V. angustifolia*. *Vernonia angustifolia* is sometimes associated with *Vernonia oligophylla*, although as a general rule it grows in much drier soil. I was unable to see that there was any clear evidence of the problematic plant, described below as *Vernonia georgiana*, having had a hybrid origin from these two species. In *Vernonia angustifolia* the pappus is tawny, in *V. oligophylla* it is whitish. In a hybrid we should expect the color character of the former species to be dominant, whereas in *Vernonia georgiana* the pappus is exactly the same as in *V. oligophylla*.

Vernonia georgiana sp. nov. Herba erecta, simplex vel parte superiore ramosa, 2–10 dm. alta. Caulis vel viridis vel purpureus, striatus, puberulus. Folia dimorpha; inferiora 7–8 lanceolata, 5–15 cm. longa, 1–2 cm. lata, sessilia, basi valde angustata, acuta vel obtusa, denticulata, supra scabra, subtus puberula; caulinia angustiora linearia, superne bracteiforma. Inflorescentia laxa, capitulis campanulatis pedicellatis. Involucrum ca. 28–florum, 6–7 mm. altum, squamis glabris vel obscurissime ciliatis, interioribus appressis, exterioribus quam interioribus multo brevioribus, apice paulum patentibus. Achenia sulcata pubescentia, pappi setulis pallide stramineis.— Type, *Bartlett 1730*, pine barrens of the fall line sand-hills, vicinity of Thomson, McDuffie Co., Georgia, 10 Aug. 1909.

Vernonia georgiana is easily distinguished from *V. oligophylla*, with which it grows, by the much narrower leaves, fewer flowered involucres (flowers about 28 in *V. georgiana*, more than 40 in *V. oligophylla*) and by the less spreading and much shorter outer involucral scales. It is known to me only from the one locality.

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